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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,545	04/15/2005	Adam Siddiqui-Jain	532232000900	3896

25225 7590 08/07/2006

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EXAMINER

BLUMEL, BENJAMIN P

ART UNIT PAPER NUMBER

1648

DATE MAILED: 08/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/531,545	SIDDIQUI-JAIN, ADAM	
	Examiner	Art Unit	
	Benjamin P. Blumel	1648	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-16 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Election/Restrictions

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions, which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-12, drawn to a method for identifying an antiviral candidate molecule.

Group II, claim(s) 13, drawn to information characterizing the structure of an antiviral molecule.

Group III, claim(s) 14-16, drawn to a method for inhibiting retroviral proliferation in a subject with an antiviral candidate molecule.

The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The claims are directed to a methods for identifying an antiviral candidate molecule which resembles a central flap nucleic acid sequence of a retrovirus and inhibiting retroviral proliferation in a subject with an antiviral candidate molecule. These methods can be utilized to determine the effectiveness of an experimental molecule at treating retrovirus infections. However, because (Whitman et al., 2001) is drawn to identifying a molecule that "primes a central DNA flap which assists in nuclear import, pre-integration complexes" and that the central flap is involved in integration into the host genome. See 9407 of Whitman et al. However, Whitman does not teach the assay for screening candidate molecules, but

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Haseltine et al., does teach "to screen for compounds that affect integration of DNA into a target DNA". Furthermore, Haseltine et al., discusses that its assay may test the integration of lentiviruses, including HIV. Since Whitman disclosed that he central DNA flap is necessary for viral nucleic acid integration, it would be obvious to combine the teachings of Haseltine et al.'s assay in order to identify compounds that interact with the central DNA flap. Further more, group II does not have a technical feature because there is no technical information in the respective claim. Lastly, no special technical feature exists for groups I-III as defined by PCT Rule 13.2, because it does not define a contribution over the prior art. Note that PCT Rule 13 does not provide for multiple products or methods within a single application. Because the technical feature of Groups I-III is not a special technical feature, unity of invention is lacking.

Should group I be elected, a further election of species is required. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

A. The species of retrovirus are as follows:

- (A) human immunodeficiency virus (HIV),
- (B) simian immunodeficiency virus (SIV),
- (C) visna/maedi virus (VMV),
- (D) caprine arthritis-encephalitis virus (CAEV),
- (E) equine infectious anemia virus (EIAV),
- (F) feline immunodeficiency virus (FIV),
- (G) bovine immunodeficiency virus (BIV),

- (H) murine leukemia virus (MLV),
- (I) mouse mammary tumor virus (MMTV),
- (J) Rous sarcoma virus (RSV),
- (K) Fujinami sarcoma virus (FuSV),
- (L) Moloney murine leukemia virus (Mo-MLV),
- (M) FBR murine osteosarcoma virus (FBR MSV),
- (N) Moloney murine sarcoma virus (Mo-MSV),
- (O) Abelson murine leukemia virus (A-MLV),
- (P) avian myelocytomatosis virus-29 (MC29), and
- (Q) avian erythroblastosis virus (AEV).

B. The quadruplex are as follows:

- (1) an intermolecular structure,
- (2) an intermolecular parallel structure, and
- (3) an intermolecular structure formed by a dimer of two intramolecular hairpin structures.

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include

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all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

The claims are deemed to correspond to the species listed above in the following manner:

A. Claim 3 requires HIV, the other claims are all generic.

B. Claims 8-10 require a specific type of quadruplex structure, the other claims are all generic with regard to this.

The following claim(s) are generic: all claims are generic because no claim is limited to a defined antiviral candidate molecule.

The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: the prior art teaches the identifying a molecule that “primes a central DNA flap which assists in nuclear import, pre-integration complexes” and “to screen for compounds that affect integration of DNA into a target DNA”.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not

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distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C.103 (a) of the other invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin P. Blumel whose telephone number is 571-272-4960. The examiner can normally be reached on M-F, 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bruce Campell can be reached on 571-272-1600. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

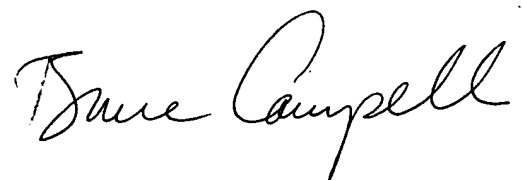
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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Benjamin Blumel
Patent Examiner

A handwritten signature in cursive script that reads "Bruce Campell". The signature is written in black ink and is positioned above the printed name and title.

**BRUCE R. CAMPELL, PH.D
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600**